

# Exhibit A

## **Edmond Stevens Cooley**

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### **Current Professional Responsibilities:**

Associate Professor of Engineering, Senior Lecturer, and Chief Information Technology Strategist, Thayer School of Engineering, Dartmouth College. Courses taught include digital systems design, introductory and advanced VLSI design, analog and digital circuits, circuit test, hardware description languages, and communications. Responsibilities include technical leadership for researching, developing, and implementing innovative projects to bring emerging technologies to engineering education and research.

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### **Education:**

Doctor of Engineering, Electrical and Computer Engineering, 1988, Thayer School of Engineering, Dartmouth College.  
Dissertation: "ADAPT: A High Level Synthesis Tool for DSP Systems."  
Advisor: Professor Charles E. Hutchinson

Master of Engineering, Electrical and Computer Engineering, 1982, Thayer School of Engineering, Dartmouth College.  
Thesis: "Expansion and Compression of Digital Images."  
Advisor: Professor Eric W. Hansen

Bachelor of Science, Electrical Engineering, 1980, University of Vermont.  
Concentrations: Computer Science (minor) and Engineering.

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### **Research Areas:**

- Wireless communications systems, Voice (VoIP) and Video over Internet Protocol;
  - Location-aware and location-specific computing;
  - Design for Test;
  - Automated Test of Analog and Digital Circuits;
  - Circuits and Systems Simulation and Characterization (analog and digital);
  - VLSI Design: high speed and custom CMOS and BiCMOS (digital and analog);
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- Signal Processing: Digital and Analog;
  - Intelligent Computer Aided Design Systems;
  - Automatic Code Generation.
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**Teaching Experience:**

Associate Professor of Engineering, and Senior Lecturer, Thayer School of Engineering, Dartmouth College. VLSI Systems Design, Hardware Description Languages, Communications Systems, Analog VLSI Systems Design. Council on Computing, ADA Section 504 Committee, and Provost's Computing Services Review Committee. First year advisor, senior theses advisor, MS theses advisor, PhD dissertations advisor and dissertations committee member.

2006 – present

Assistant Professor of Engineering, and Senior Lecturer, Thayer School of Engineering, Dartmouth College. VLSI Systems Design, Hardware Description Languages, Communications Systems, Analog VLSI Systems Design. Council on Computing, ADA Section 504 Committee, and Provost's Computing Services Review Committee. First year advisor, senior theses advisor, MS theses advisor, PhD dissertations advisor and dissertations committee member.

1988 – 2006

Teaching Assistant, Thayer School. VLSI Systems Design and Implementation, C and Prolog Programming, UNIX Operating Systems, Sun, DEC, and Xerox Workstations.

1984 – 1988

Instructor, Raytheon Institute, Raytheon Company Missile Systems Division, for Fitchburg State College. Computer architecture, VLSI Design.

1982 – 1984

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**Other Professional Experience:**

Expert Witness, Wilmer, Cutler, Pickering, Hale and Dorr, Boston, MA. Wireless communications systems analysis.

October 2004 – present

Expert Witness, Law Offices of DeWayne Layfield, Beaumont, TX. Hardware and software analysis.

June 2002 – present

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Consultant, ARCON Corporation, Waltham, MA. Analog and digital circuit design and simulation. Participated in SBIR Phase I and Phase II grants. October 1995 – present

Director of Information Technology, Thayer School of Engineering, Dartmouth College. Full technical and managerial responsibility for all aspects of engineering computing: needs assessment, system specification, procurement, installation, staffing, training, and multi-year planning. Managed a team of 6 full and part-time computing technical professionals, including technicians, systems administrators, and programmers. Managed an annual operating budget in excess of \$900,000. 1993 – 2006

Consultant, Medical Media Systems, West Lebanon, NH. Massive storage system characterization and design. April – December 2003

Expert Witness, Hale and Dorr, Boston, MA. Communications systems hardware and software analysis. February – October 2000

Admissions Officer, Thayer School of Engineering, Dartmouth College. Graduate recruiting, application processing and facilitation. 1992 – 1996

Consultant, Alacron, Inc., New York City, NY. Digital Signal Processing software design and implementation for the Intel i860 RISC microprocessor. 1990 – 1991

Faculty Intern, Battelle RTP Office, U.S. Army Summer Faculty Research and Engineering Program. “VHDL as a Design Language for Analog Electronic Circuits,” Ft. Monmouth, New Jersey. Summer 1990

Post Doctoral Fellow, Thayer School of Engineering, Dartmouth College, Hanover, New Hampshire. Thayer KBE development effort. 1988 – 1990

Consultant, Binary Technology, Inc., Meriden, NH. Technical support and sales; hardware and software development. 1989

Consultant, Computac, Inc., Lebanon, NH. General consulting in CMOS and TTL circuit design, trouble shooting, programming of Intel 8051 microcomputer-based controller boards, and general analog design. 1985 – 1989

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Consultant, Universal Energy Systems, Inc. Dayton, OH. Rewrote specifications document for the DoD Engineering Information System (EIS) project.

February 1986

Engineer, Institute for Defense Analyses, Alexandria, VA. Design engineering in the areas of artificial intelligence and automated assembly code generation.

June – August,  
December 1985

Consultant, Aerodyne Research, Inc. Billerica, MA. General consulting on computer architecture, digital circuits, high-speed arithmetic algorithms, and VLSI chip design.

1984 – 1986

Engineer, Missile Systems Division, Raytheon Company, Bedford, MA. Designed custom VLSI CMOS circuits for guidance computers and high-speed arithmetic systems. Also, developed new and modified computer architectures for guidance and self-test (BIST) computers.

1982 – 1984

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#### **Research Grants:**

Microsoft University Relations, Microsoft Corporation: “Educational Grant to introduce Microsoft’s new operating systems and applications technologies into undergraduate and graduate curricula, instruction, and computing laboratories.” Software consisted of various Microsoft products. Value: approximately \$6k

March 2005

Microsoft University Relations, Microsoft Corporation: “Educational Grant to introduce Microsoft’s new operating systems and applications technologies into undergraduate and graduate curricula, instruction, and computing laboratories.” Software consisted of various Microsoft products. Value: approximately \$6k

March 2004

Microsoft University Relations, Microsoft Corporation. “Education Grant to port Dartmouth’s Email Client, ‘BlitzMail’ to the PocketPC platform”. Value: approximately \$5k.

October 2003

Microsoft University Relations, Microsoft Corporation: "Education Grant to introduce new TabletPC and wireless technologies into the curriculum for in-class collaboration and distance learning". Equipment and software to be used as part of the MTEI: Multimedia Techniques in Engineering Instruction project. Value: approximately \$20k. August 2003

Microsoft University Relations, Microsoft Corporation: "Educational Grant to introduce Microsoft's new operating systems and applications technologies into undergraduate and graduate curricula, instruction, and computing laboratories." Software consisted of Microsoft Office, .NET, Visual Studio, Visual Basic, etc. Value: approximately \$5.2k March 2003

Microsoft, Corporation. "Introduction of wireless and web-based technologies into the curriculum." \$41,000. May 2001

International Business Machines. University Agreement No. 961105: "Research into the proper testing methods, defective circuit behavior and fault models for dynamic CMOS circuits." \$94,600 January 1997 – December 1998

ARCON Corporation (For Rome Labs, USAF) "Adaptation of EMViz for Academic Use." \$46,270. October 1995 – September 1997

Geo-Centers, Inc. Prime Contract DAAL01-89-C-0927, Subcontract Number GC-2083-90-007: "Hardware Description Language for Analog and Microwave Applications." \$31,057. November 1990 – October 1991

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**Publications:**

“MTEI: Multimedia Techniques for Engineering Instruction.” Andreas Rohr and Edmond S. Cooley, white paper, December, 2001.

“Fault Modeling Analysis Methodology Illustrated with a Dynamic Logic Example.” R. Dean Adams and Edmond S. Cooley. Seventh IEEE North Atlantic Test Workshop, May 28-29, 1998, West Greenwich, RI.

“Tutorial Three: Design and Test of High-Speed Dynamic Logic” Edmond S. Cooley and R. Dean Adams. VLSI Test Symposium, April 26-30, 1998, Monterey, CA.

“Quad DCVS: A Dynamic Differential Logic Family with Precharge Low and High I/O.” R. Dean Adams, Edmond S. Cooley, and Patrick R. Hansen. Second IEEE International Caracas Conference on Devices, Circuits, and Systems, March 2-4, 1998.

“A Self-Test Circuit for Evaluating Memory Sense-Amplifier Signal.” R. Dean Adams, Edmond S. Cooley, and Patrick R. Hansen. International Test Conference, Washington, DC, November 1-6, 1997.

“False Write Through and Un-Restored Write Electrical Level Fault Models for SRAMS.” IEEE Workshop on Memory Technology, Design and Testing San Jose, CA August 11, 1997.

“Analysis of a Deceptive Destructive Read Memory Fault Model and Recommended Testing.” Annual Atlantic Test Workshop, Dartmouth College, 30-31 May 1996, pp. 1.1.1 - 1.1.5.

“Analog Test Issues: Objectives, Techniques, and Future Directions.” First Annual Atlantic Test Workshop, University of New Hampshire, 7-8 May 1992, pp. 4.1 - 4.10.

“Modeling of a Mixed Analog/Digital System Using AHDL: A Design Example and Proposal for Extensions”, Edmond S. Cooley, Final Report submitted to the U.S. Army Electronics Technology and Devices Laboratory, Contract Number: DAAL03-86-D-0001, Delivery Order Number: 1839, 15 August, 1990.

“Analog Hardware Description Language: A Prototype Design”, Edmond S. Cooley and Brian S. Cohen, Thayer School of Engineering, Dartmouth College, Hanover, NH. August, 1990.

“Analog Hardware Description Language: A Prototype Specification”, Edmond S. Cooley and Brian S. Cohen, Thayer School of Engineering, Dartmouth College, Hanover, NH. August, 1990.

“Extension and Enhancement of a Small Microsystem Program: The Dartmouth/IBM Connection”, C. Hitchcock, B. Fagin, A. Henning, and E. Cooley, pp. 233-236, July, 1990.

“ADAPT: A High Level Synthesis Tool for DSP Systems”, Edmond S Cooley. Doctor of Engineering Dissertation, Thayer School of Engineering, Dartmouth College, Hanover, NH. June, 1988.

“Using VHDL as a Design Language for Analog Electronic Circuits”, Brian S. Cohen, Thomas W. Carhart, and Edmond S. Cooley, A Workshop on Analog Circuit Engineering, Thayer School of Engineering, Dartmouth College, November 16-17, 1987.

“The Thayer KBE: An Intelligent Design Environment of Engineering CAD”, Edmond S. Cooley, et al., Proceedings, Cook Design Center Fall Colloquium, “Back to the Future”, 8-9 October, 1987, Hanover, NH.

“Studies in Artificial Intelligence”, Edmond S. Cooley, et al., Directions, Vol 1, No. 1, Thayer School of Engineering, Dartmouth College, November, 1986.

“Asynchronous Integrated Optical Multiply Accumulate with Sideways Summer”, Scott J. Israel, Steven C. Gustafson, and Edmond S. Cooley, Applied Optics, 14 July 1986.

“Summary of January 6-10, 1986 EIS Workshop”, Brian S. Cohen and Edmond S. Cooley, March 1986.

“Operational Concepts and Requirements for an Engineering Information System”, Edmond S. Cooley, et. al. Prepared for the VHSIC EIS Workshop, January 6-10, 1986.

“ISSD: An Intelligent Design Support System for DSP Design”, Edmond S. Cooley and John L. Cuadrado, IEEE Spring CompCon, 6-9 March, San Francisco, CA, 1986.

“Sideways Summer”, Edmond S. Cooley and Scott J. Israel, Proceedings of the SPIE Conference, San Diego, CA, August, 1985.

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### **Honors and Awards:**

IEEE Computer Society: Named Member of the Golden Core.	May 2003
IEEE Computer Society Outstanding Contribution Award (North Atlantic Test Workshop).	May 2002
Outstanding Service Award for Faculty, Thayer School of Engineering, Dartmouth College.	June 1999

### **Society Memberships:**

- IEEE: Computer Society; Test; Circuits and Systems; Logic Programming.
- AAAI, member.
- ACM, member.
- ASEE, member.
- ISTE, member.
- SPIE, member.

### **Activities:**

#### Academic:

- Chairman, Thayer School Chapter, IEEE.
- Trustee, W1ET: Dartmouth College Amateur Radio Association.
- Faculty Advisor, Phi Tau Coeducational Fraternity

#### Boards:

- Member, Board of Directors, New England Brittany Rescue.
- Member, Board of Directors, American Precision Museum, Windsor, VT.

#### Paper Reviewer:

- SBIR Review Panel, National Science Foundation.
- Proposal Reviewer, Elementary, Secondary, and Informal Education, National Science Foundation.
- Paper Reviewer, Transactions on Computers, IEEE.
- Paper Reviewer, Design Automation Conference.
- Paper Reviewer, International Test Conference.
- Paper Reviewer, IEEE North Atlantic Test Workshop

#### Service:

- Finance and Registration Chairman, IEEE North Atlantic Test Workshop
- Member, Executive Committee, Thayer School Annual Fund.
- Member, Executive Committee, Dartmouth Society of Engineers.
- Past President, Student Chapter, Dartmouth Society of Engineers.
- Past President, Dartmouth Society of Engineers.
- Past President, New England Chapter 8, National Association of Watch and Clock Collectors.

- Past Director, Rip Van Winkle Chapter 40, National Association of Watch and Clock Collectors.
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**Hobbies:**

Brittany (breed) Rescue, antique watch and clock collecting and repair, bicycling, hiking, amateur radio, photography, antique telephony, preparing and eating very spicy ethnic foods.

Frequent exhibitor and speaker on the subjects of watches, wrist watches, railroad watches, military timepieces, clocks, New Hampshire wooden works clocks, etc.

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References available upon request.